



City of Chandler Transportation Master Plan Update

SUMMARY

Public Meeting
December 3, 2009

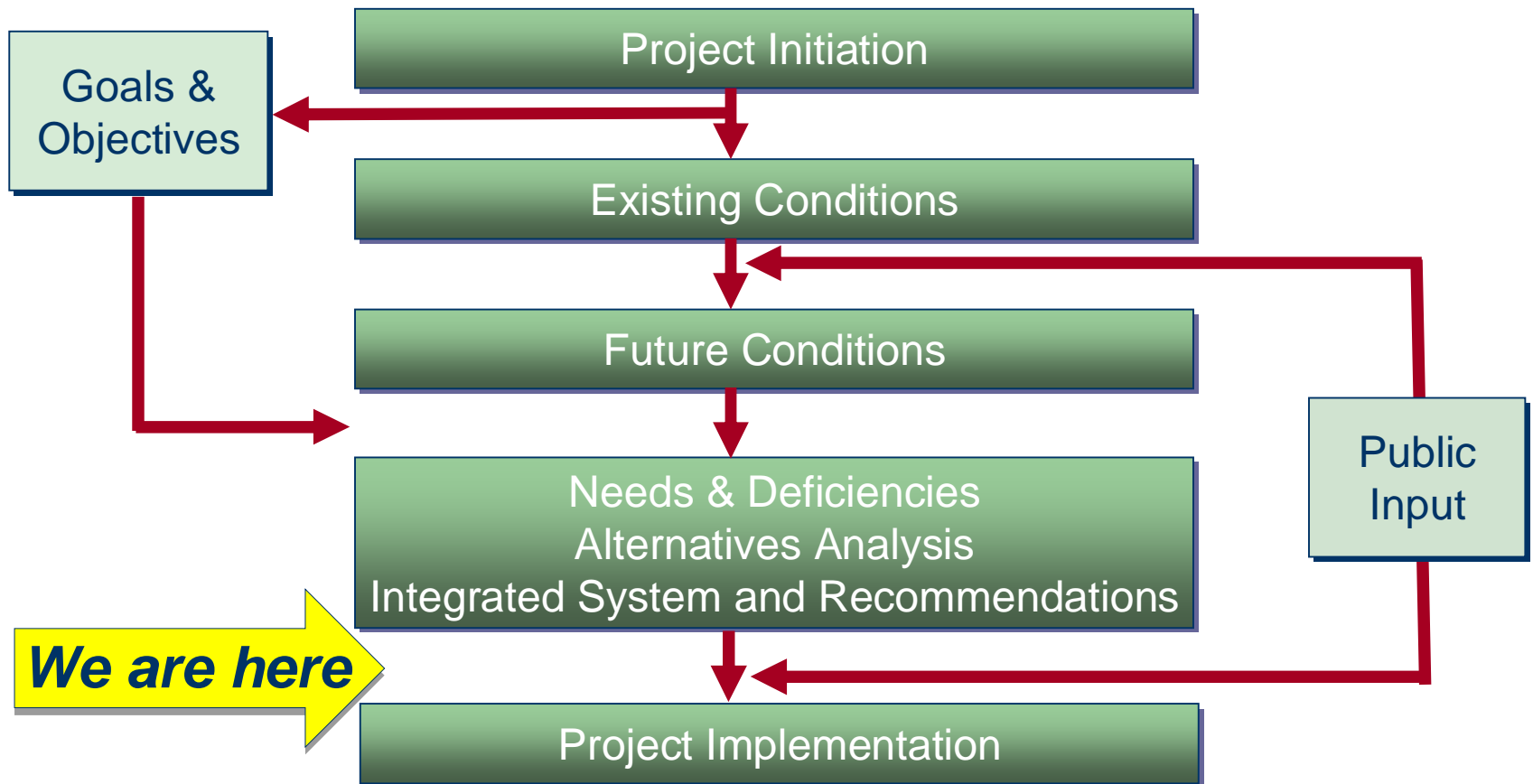
Transportation Plan Update

- Purpose

- Updating 2001 Transportation Master Plan Study
 - Updated Plans
 - Transit
 - Bicycle
- Address current needs of City
- A combined comprehensive plan addressing all modes of transportation



Goals & Objectives



Transportation Commission

- Vision
 - Develop an environmentally-friendly, multimodal transportation system that provides choices to make Chandler known as the “Most Connected City.”



Transportation Commission

- Goals
 1. Continue the development of an integrated, balanced multi-modal transportation system that facilitates the use of alternative modes of travel throughout the City of Chandler
 - Objective 1.1: Facilitate the use of streets, transit operations, aviation facilities, rail facilities, bicycle lanes and paths, and pedestrian features as integral parts of the transportation system.
 - Objective 1.2: Recognize the need to accommodate transportation choices and alternatives by including the consideration of all transportation modes in the preparation of City plans and the approval of private developments.
 - Objective 1.3: Provide for efficiency, convenience, and reliability in the design and operation of each mode of the transportation system.
 - Objective 1.4: Investigate opportunities for current businesses to construct site improvements that make their facilities more friendly to pedestrians, bicycles, and transit.



Transportation Commission

- Goals
 1. Continue the development of an integrated, balanced multi-modal transportation system that facilitates the use of alternative modes of travel throughout the City of Chandler
 - Objective 1.5: Facilitate residents' accessibility to regional and interstate transportation facilities by creating multi-modal connections to bus systems, rail, air passenger services, and freeways.
 - Objective 1.6: Strive to achieve efficient truck routes, reducing conflicts with passenger vehicles.
 - Objective 1.7: Develop and maintain long-term plans for all transportation modes.
 - Objective 1.8: Support major employer trip reduction efforts by providing infrastructure and transportation service improvements that encourage or facilitate the use of alternative modes of travel for employees to and from the work site.



Transportation Commission

- Goals
 - 2. Develop and maintain a system of streets that provides for the safe and efficient movement of people and goods through the City.
 - Objective 2.1: Design, build, and maintain a street system that serves current and projected traffic volumes.
 - Objective 2.2: Evaluate construction and right-of-way costs, economic and business impacts, and social effects of street widening and construction and mitigate negative impacts where possible.
 - Objective 2.3: Identify and implement measures to reduce congestion on major arterials.
 - Objective 2.4: Widen congested intersections by adding turn lanes and bus pullouts to provide additional capacity.
 - Objective 2.5: Coordinate the design of roadway improvements with neighboring communities.
 - Objective 2.6: Review and update street design standards as needed.



Transportation Commission

- Goals
 - 3. Improve public transportation alternatives for Chandler citizens, commuters and visitors.
 - Objective 3.1: Engage in long-range planning for light rail system extension into the city along High Capacity Transit Corridors and/or commuter rail service on existing railroad facilities.
 - Objective 3.2: Expedite High Capacity Corridor improvements, including high speed bus rapid transit connections with metropolitan area destinations.
 - Objective 3.3: Provide connections from outlying lower-density neighborhoods (e.g. dial-a-ride local bus service) to Downtown Chandler and transit centers.
 - Objective 3.4: Encourage ridership through transit-oriented development.
 - Objective 3.5: Expand transit services as appropriate to meet demand



Transportation Commission

- Goals
 - 3. Improve public transportation alternatives for Chandler citizens, commuters and visitors.
 - Objective 3.6: Support transit services with appropriate levels of amenities
 - Objective 3.7: Support transit service and promote transit use through innovative land use, design, and parking policies
 - Objective 3.8: Ensure that transit service is easy to use and comfortable for users.
 - Objective 3.9: Develop options for funding and implementing a neighborhood connector transit system.
 - Objective 3.10: Identify and prioritize routes for shuttle service between major activity centers and establish priorities for implementation as funding is available.



Transportation Commission

- Goals
 - 4. Provide for bicycling as a viable transportation choice by providing on-road and off-road bicycle facilities designed for maximum safety, convenience and comfort.
 - Objective 4.1: Plan a continuous and interconnected system for bicycle travel among Chandler neighborhoods, downtown, and adjoining communities.
 - Objective 4.2: Enhance the existing pedestrian/bikeway system by continuing the implementation of bicycle lanes on arterial streets where feasible and in accordance with established safety and design standards.
 - Objective 4.3: Encourage bicycle commuting through education and outreach programs.
 - Objective 4.4: Consider the placement of bicycle lanes on arterial streets where feasible.



Transportation Commission

- Goals
 - 4. Provide for bicycling as a viable transportation choice by providing on-road and off-road bicycle facilities designed for maximum safety, convenience and comfort.
 - Objective 4.5: Include bicycle plan integration in new developments, street improvements, and neighborhood revitalization strategies
 - Objective 4.6: Design bicycle facilities that serve bicyclists of all ages and skill levels.
 - Objective 4.7: Improve safety for bicycle paths and lanes by designing and implementing a bicycle safety program.
 - Objective 4.8: Provide bicycle transport facilities on buses and light rail cars.



Transportation Commission

- Goals
 - 5. Design and implement pedestrian infrastructure improvements that provide comfortable, safe and convenient pedestrian access in appropriate areas of Chandler.
 - Objective 5.1: Prepare and adopt a Pedestrian Master Plan
 - Objective 5.2: Revise Chandler Standard Details to encourage pedestrian mobility.
 - Objective 5.3: Develop pedestrian access design guidelines for developers that encourage pedestrian activity.
 - Objective 5.4: Complete pedestrian improvements in conjunction with projects currently funded by the Capital Improvement Projects Budget, such as those listed under Parks, Community Services, Streets and Transit.
 - Objective 5.5: Develop funding assistance for pedestrian improvements, possibly modeled after the Downtown Improvement Fund.



Transportation Commission

- Goals
 - 5. Design and implement pedestrian infrastructure improvements that provide comfortable, safe and convenient pedestrian access in appropriate areas of Chandler.
 - Objective 5.6: Survey existing pedestrian facilities to identify problem areas/issues and develop a hierarchical list of remediation projects.
 - Objective 5.7: Enhance off-road corridors as pedestrian connections, especially in neighborhood revitalization areas
 - Objective 5.8: Collaborate with the community to implement and market a “Safe Routes to School” program where appropriate.
 - Objective 5.9: Develop minimum “safety” criteria for pedestrian facilities that include such elements as sidewalk width, driveway crossings, access ramps, separation from traffic, lighting, and crosswalks.



Transportation Commission

- Goals
 - 5. Design and implement pedestrian infrastructure improvements that provide comfortable, safe and convenient pedestrian access in appropriate areas of Chandler.
 - Objective 5.10: Develop “comfort” criteria that further enhance pedestrian facilities in selected areas by considering such elements as wider sidewalks, additional separation from traffic, traffic calming improvements, more consistent lighting, improved pedestrian crossings, and more shade.
 - Objective 5.11: Develop “destination” criteria that seek to enhance the “comfort” criteria in selected high density, urban residential, and urban commercial areas, such as the downtown and the Arizona Avenue corridor.
 - Objective 5.12: Conduct an education and marketing campaign, possibly in conjunction with the City Manager’s Office, Community Services, State and County Health Departments, Education Departments, and Trip Reduction Programs to increase awareness of pedestrians and walking as a viable transportation option.



Transportation Commission

- Goals

6. Facilitate the integration and coordination of transportation and land-use planning.
 - Objective 6.1: Maintain communication with adjacent communities and regional agencies to coordinate transportation planning, programming, design standards and system improvements.
 - Objective 6.2: Communicate and promote an overall transportation “vision” that references transit-oriented development principles to encourage mixed-use “live, work, play” opportunities.
 - Objective 6.3: Require transportation area plans for major development to document and address transportation needs (street, pedestrian, bicycle and transit).
 - Objective 6.4: Plan high capacity corridors near planned high intensity land uses.
 - Objective 6.5: Design optimum roadway widths, geometrics, ingress-egress and signalization in high capacity corridors tied to land use intensity.



Transportation Commission

- Goals

6. Facilitate the integration and coordination of transportation and land-use planning.
 - Objective 6.6: Discourage through traffic in residential neighborhoods by means of efficient signalization on arterial streets and traffic calming.
 - Objective 6.7: Coordinate with regional and neighborhood community transportation plans.
 - Objective 6.8: Establish site planning design criteria that relate vehicular access/parking with bike and pedestrian connections between adjacent land uses.
 - Objective 6.9: Review and update standards and policies for implementing traffic calming measures in neighborhoods.
 - Objective 6.10: Engage the City's Art Commission to identify opportunities to integrate public art into transportation projects.



Transportation Commission

- Goals

6. Facilitate the integration and coordination of transportation and land-use planning.
 - Objective 6.11: Establish development design standards and policies that encourage and facilitate both bike and pedestrian access between adjacent land uses.
 - Objective 6.12: Develop policies and programs that protect existing residential neighborhoods (and other sensitive land uses) from adverse traffic impacts and enhance quality of life in the community.
 - Objective 6.13: Integrate the City's diverse travel needs, history, and cultural values in planning and operating the transportation system.
 - Objective 6.14: Utilize aviation facilities to attract business and accommodate local aircraft owners.



Transportation Commission

- Goals

7. Adopt policies and implement programs and procedures that will protect the public investment, provide sufficient maintenance, and insure the long-term viability of the City's transportation infrastructure.
 - Objective 7.1: Develop a financial strategy for long-term funding for the construction and maintenance of City transportation facilities...
 - Objective 7.2: Establish maintenance standards for street surfaces, streetlights, sidewalks, curb and gutter, signals, signs and markings, landscaping and storm drains.
 - Objective 7.3: Establish fiscal policies that provide for system capacity improvements needed to accommodate new development.
 - Objective 7.4: Review the adequacy of existing arterial street impact fee policies.
 - Objective 7.5: Develop policies and procedures for mitigating transportation impacts related to infill development outside of the existing impact fee area.
 - Objective 7.6: Pursue additional outside funding sources, including federal and state grants.



Transportation Commission

- Goals

8. Identify transportation system opportunities to conserve energy, reduce air pollution, protect water quality, and recycle materials when expanding/improving transportation infrastructure.
 - Objective 8.1: Apply new and emerging technologies to improve traffic operations, reduce vehicle miles traveled, reduce vehicle emissions, and improve the operational efficiencies of the existing transportation infrastructure.
 - Objective 8.2: Evaluate expanding the City's low emissions and/or alternative fuel vehicle fleet.
 - Objective 8.3: Increase the City's use of Intelligent Transportation Systems (ITS) to improve traffic flow.
 - Objective 8.4: Evaluate the City's Commuter Trip Reduction program and revise measures as needed.
 - Objective 8.5: Investigate use of recycled materials in street construction (i.e. crushed glass, rubberized asphalt, recycled asphalt).
 - Objective 8.6: Work with communications companies to coordinate installation of Fiber Optic network along all established and planned transportation corridors.



Transportation Commission

- Goals

9. Improve public information and encourage citizen input in transportation decision-making.
 - Objective 9.1: Develop alternative transportation mode education and awareness programs and encourage their use.
 - Objective 9.2: Seek citizen input on transportation projects and issues and develop transportation related information for public distribution.
 - Objective 9.3: Maintain the City website with information on transportation projects and public meetings.
 - Objective 9.4: Establish a presence at City sponsored events.



Public Meeting #1

- June 2008
- Purpose
 - Introductory information about the plan update
 - Obtain input on issues/priorities
 - Obtain input on Vision and Goals & Objectives
- Significant input received
- Survey
 - Wider streets
 - Expanded bus service
 - High Capacity transit



Public Meeting #2

- Purpose
 - Share recommendations for improvements
 - Roadway
 - Transit
 - Bicycle/Pedestrian
- Receive Input



Recommendations

- Multi-modal Focus
- Roadway Plan – Improvements for build-out
- Intra-City Transit focus
- Recreational Bicycle/Pedestrian improvements
- Recommendations support “Most Connected City” goal
- Planning Level Study
 - Sets stage for detailed design review



Recommendation Development

- **Background Information**
 - Population
 - Employment
 - Existing and Future Traffic Volumes (Roadway)
 - Performance (Transit)
 - Funding
- **Future Conditions Estimates**
 - Snapshot of the Future
 - Growth
 - Congestion



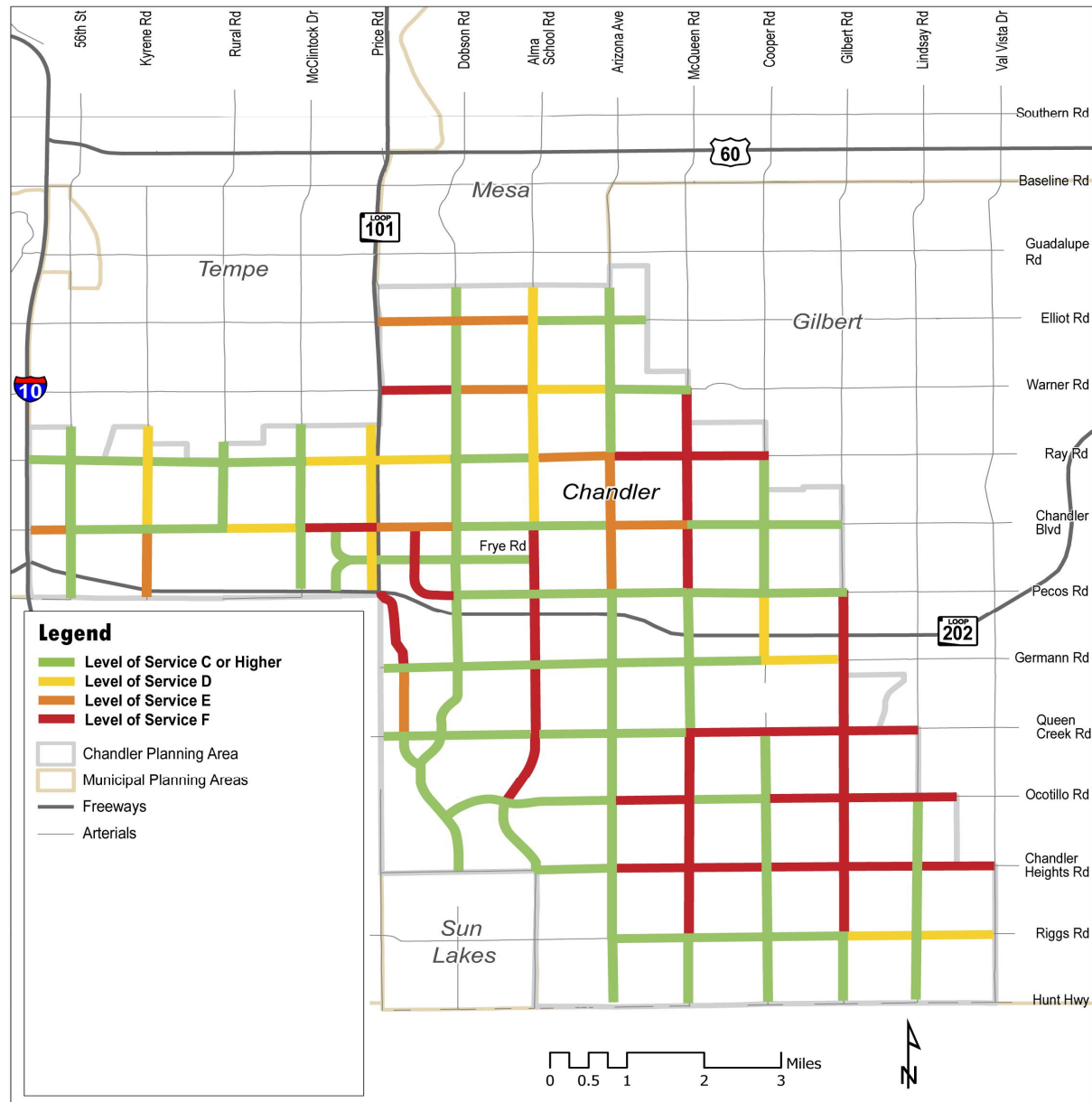
Roadway

- Build-out traffic volumes identified
- Congestion philosophy
 - Access a lower of level of service in selected locations
 - Arizona Avenue (Downtown Chandler)
 - Sections of Chandler/Elliot/Warner/Alma School/Frye/Dobson Roads



Chandler Transportation Plan

2030 Level of Service based on 2009 Roadway Network

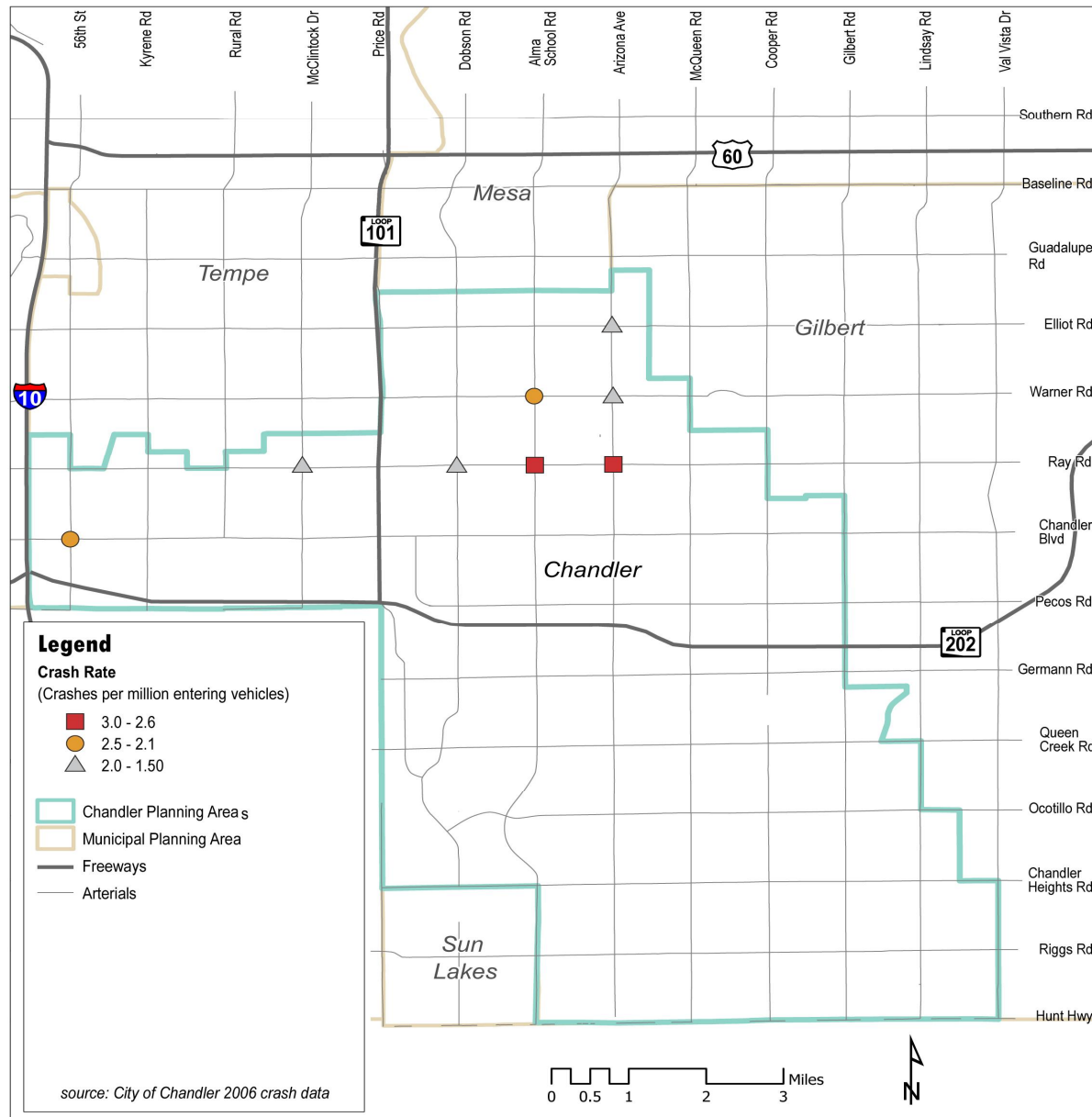


2030 Level of Service with No Roadway Improvements



Chandler Transportation Plan

Intersection with High Collision Rate (2006 data)



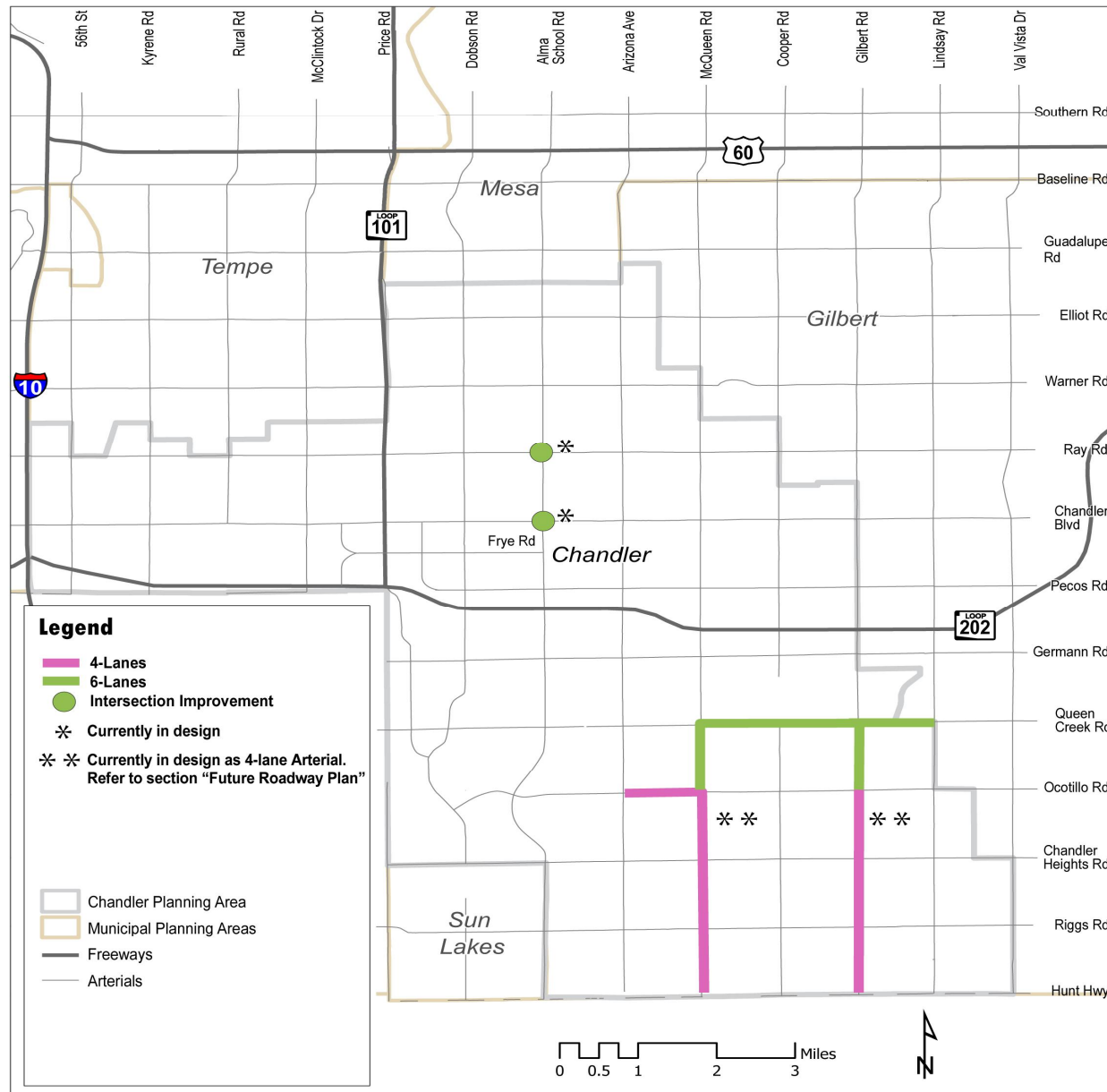
2006 Intersections with High Collision Rates

**SAFETY ISSUES ARE
A PRIORITY AND ARE
ADDRESSED IN
RECOMMENDATIONS**



Chandler Transportation Plan

Capital Improvement Program (CIP) FY 2009-2014



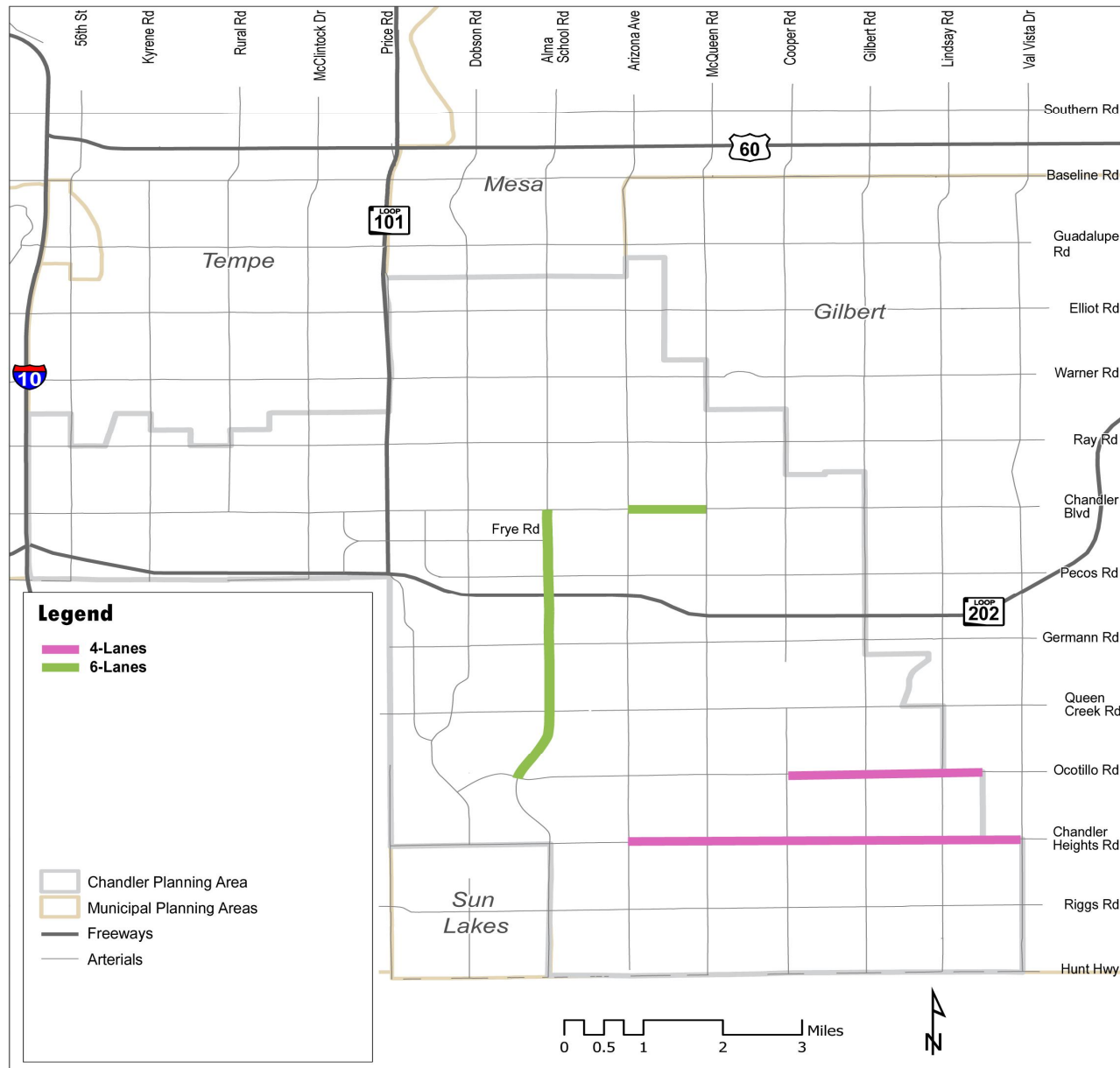
CIP 2009-2014

\$147M



Chandler Transportation Plan

Capital Improvement Program (CIP) FY 2014-2019



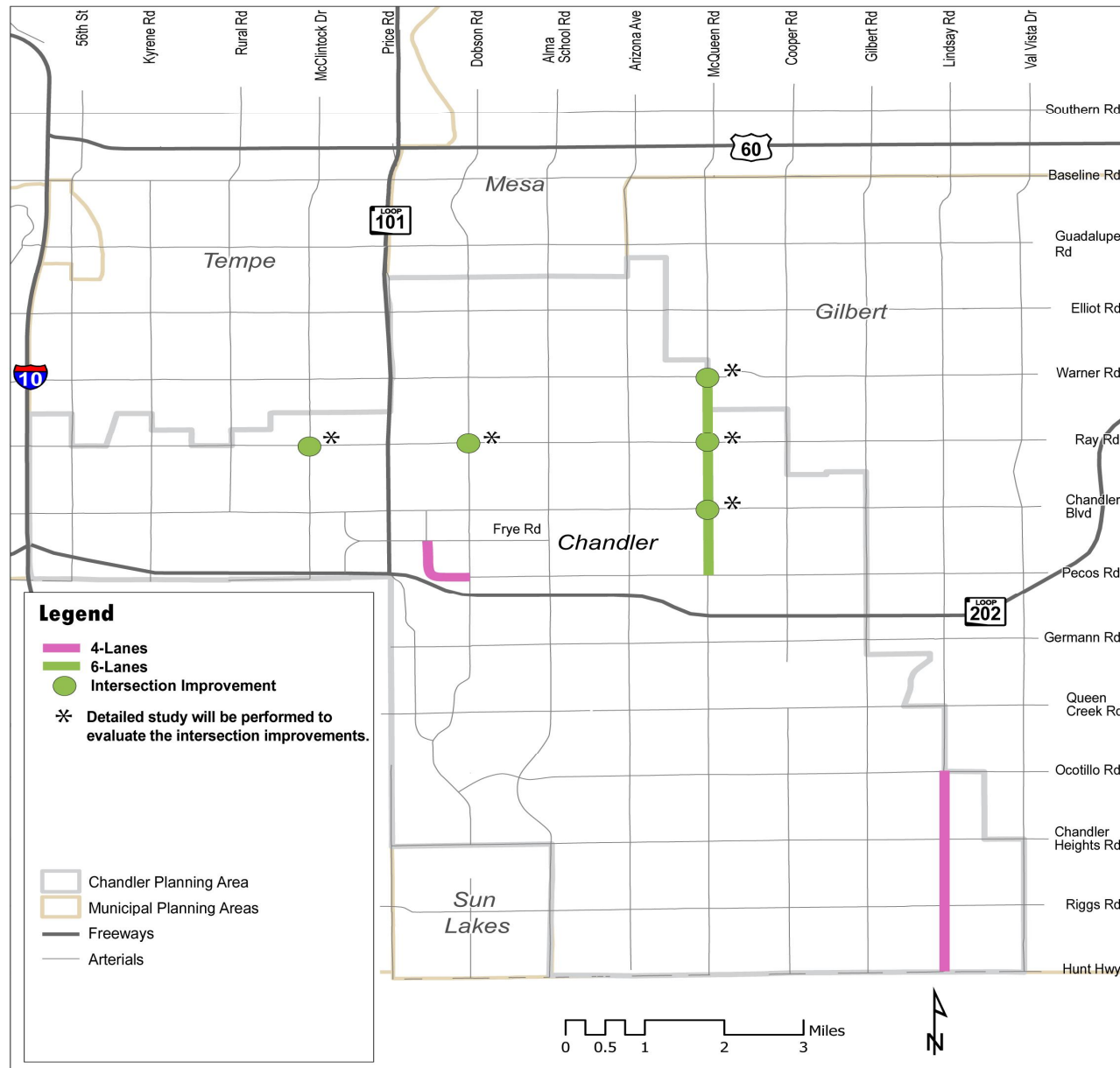
CIP 2014-2019

\$99M



Chandler Transportation Plan

Capital Improvement Program (CIP) FY 2019-2024



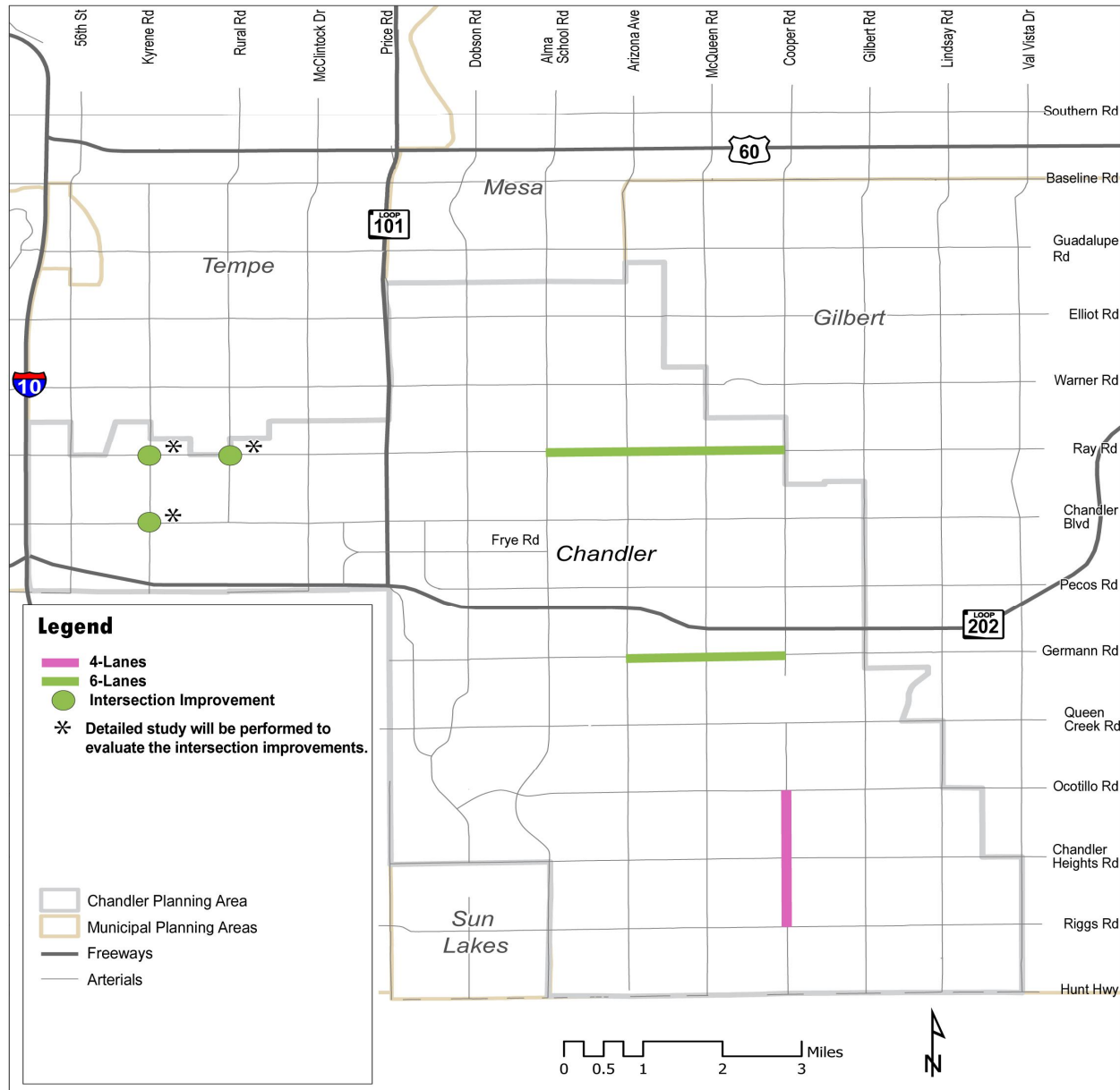
CIP 2019-2024

\$97M



Chandler Transportation Plan

Capital Improvement Program (CIP) FY 2024-2029



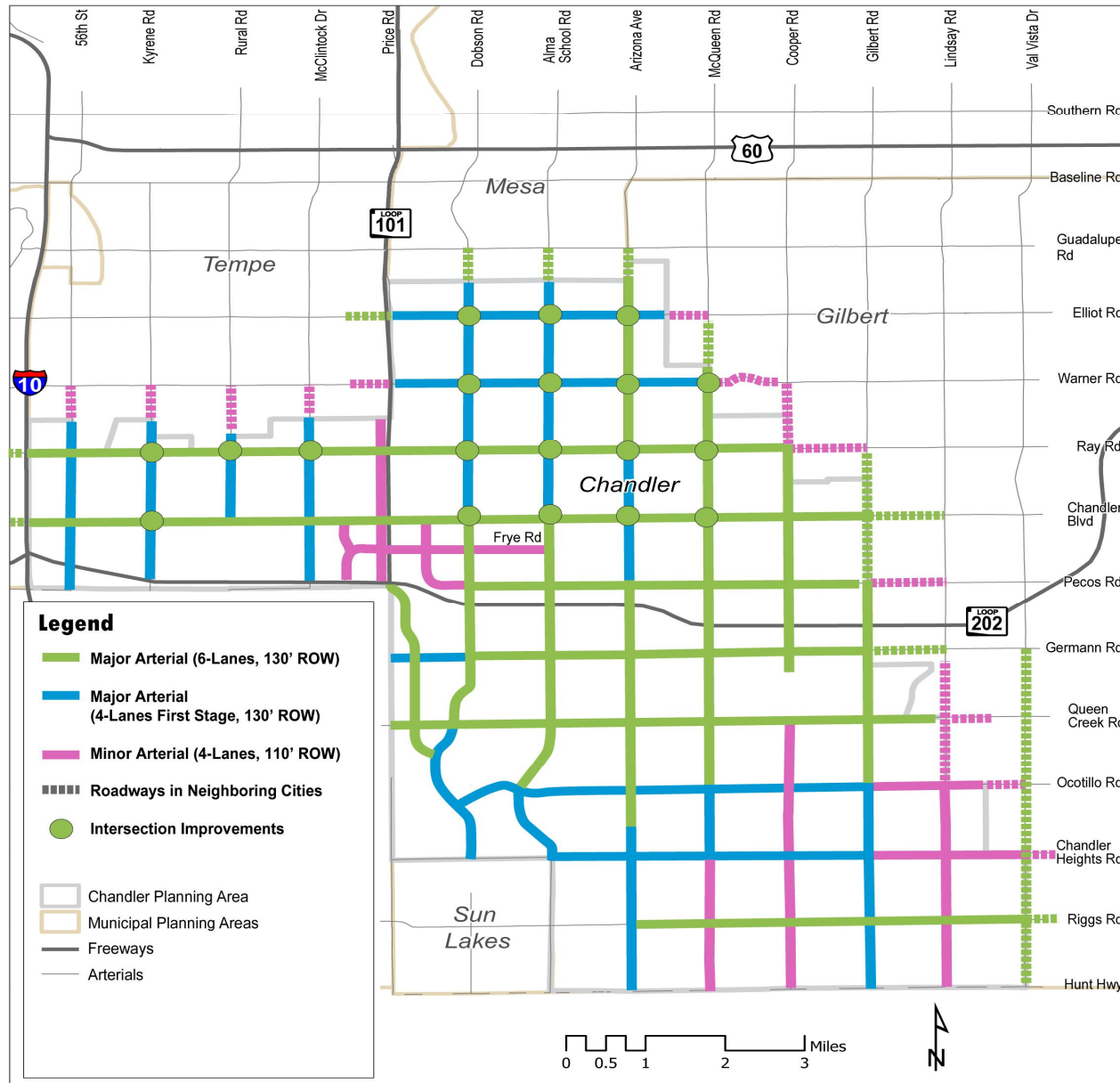
CIP 2024-2029

\$67M



Chandler Transportation Plan

2030 Roadway System



2030 Roadway System with Recommended Improvements



Transit

- Coordinated regional transit services
- Approximately 50 miles of services
- Funding
 - City funds
 - Proposition 400 funding
- Funding of future services
 - Additional funding source?
 - Service levels of cities with dedicated funding



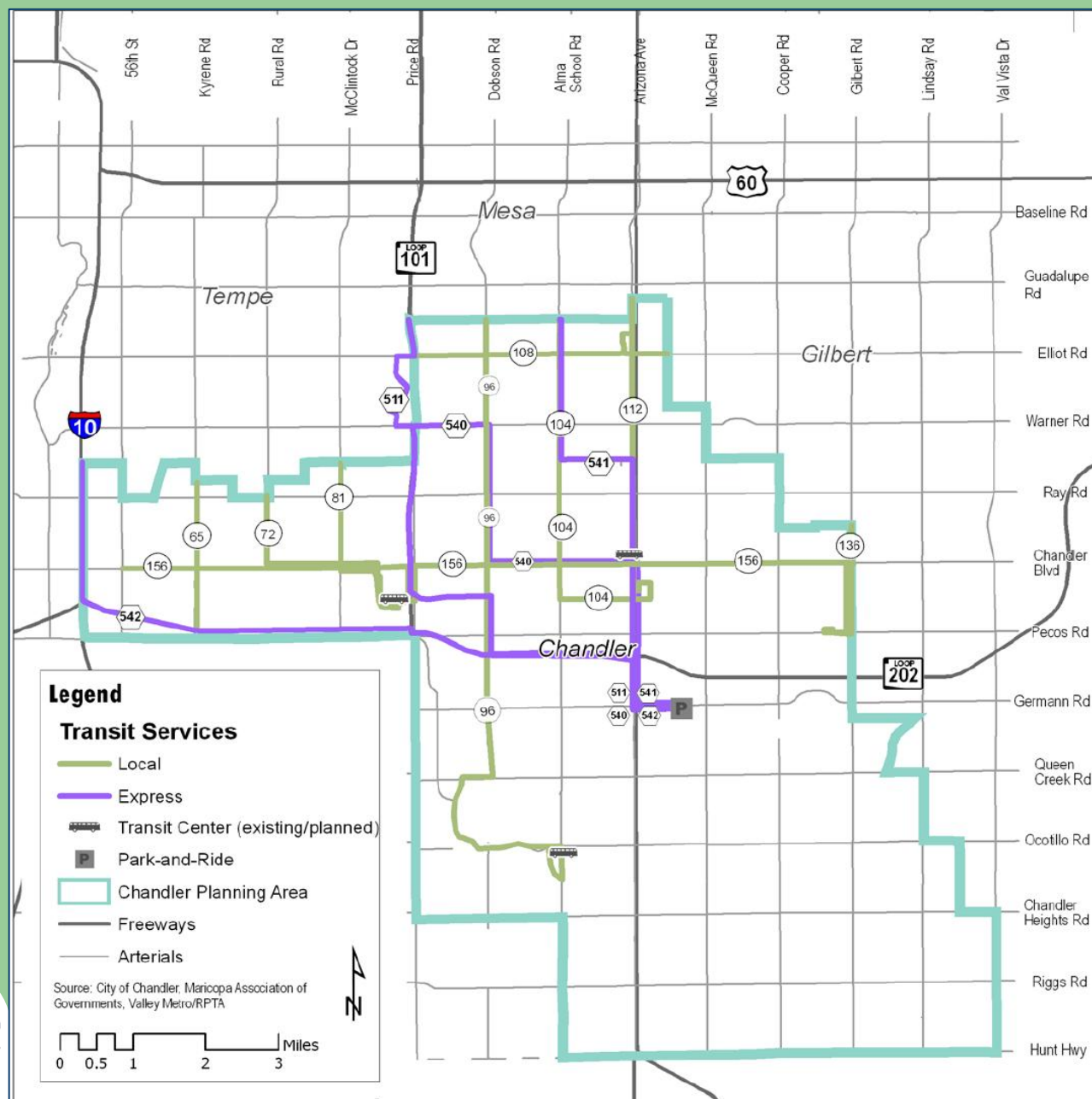
Existing Transit Conditions

- Local
- Express
- ADA and non-ADA Dial-a-Ride
- Park-and-Ride
 - 4 locations
- Transit Center
 - Chandler Fashion Center
- BRT on Arizona Avenue programmed to start July 2010



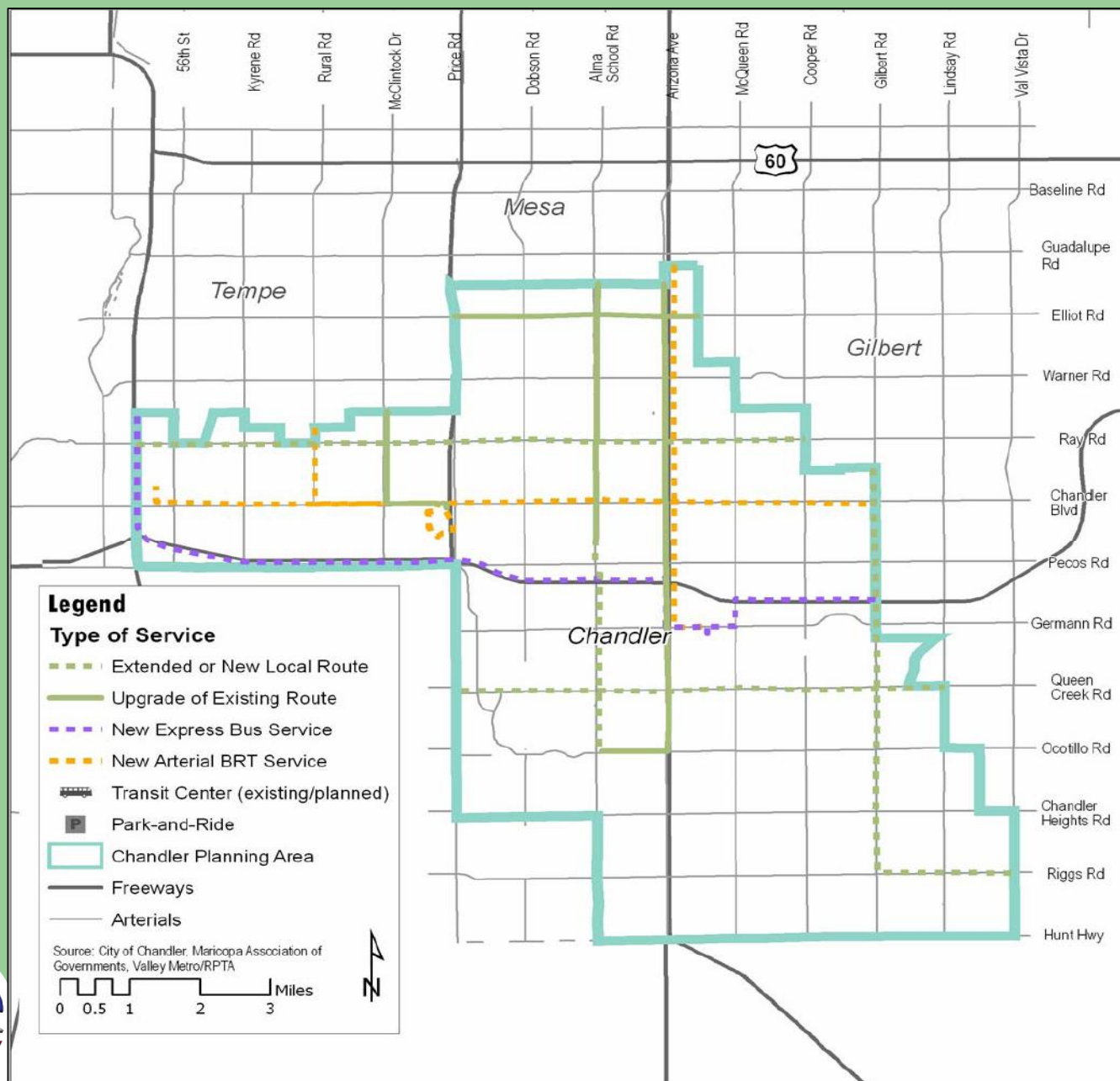
Chandler Transportation Plan

Existing Transit Routes & Facilities 2009



Chandler Transportation Plan

Regional Transit Plan Projects



Near-Term Recommendations 2010-2014

- Local bus service
- Express bus service
- Dial-A-Ride (ADA and Senior)
- Circulators
 - Intra-city movement
 - “Friendly” to seniors
- Supporting Facilities & Policies
 - Transit-Oriented Design (TOD)
 - Capital Infrastructure



Near-Term Recommendations 2010-2014

Route	Route name	Recommendation	Implementation Date	Funding Source(s) [1]	Additional Funding (if any)
104	Alma School Road	Delay extension of route south of Frye Road	N/A	N/A	\$0
112	Arizona Avenue	Extend route south to South Chandler Transit Center as planned in RTP	FY2014	RTP	\$0
136	Gilbert Road	Extend to Riggs Road and Val Vista Road/McQueen Road in South Chandler	FY2010	RTP	\$0
156	Chandler Boulevard	Enhance service frequencies to 15-minutes in peak to match Arizona Avenue BRT. Study eliminating deviations to Chandler/Gilbert Community College & Chandler Fashion Center	FY2010	RTP	\$0
511	Scottsdale Airpark	Monitor effectiveness	Existing	RTP	\$0



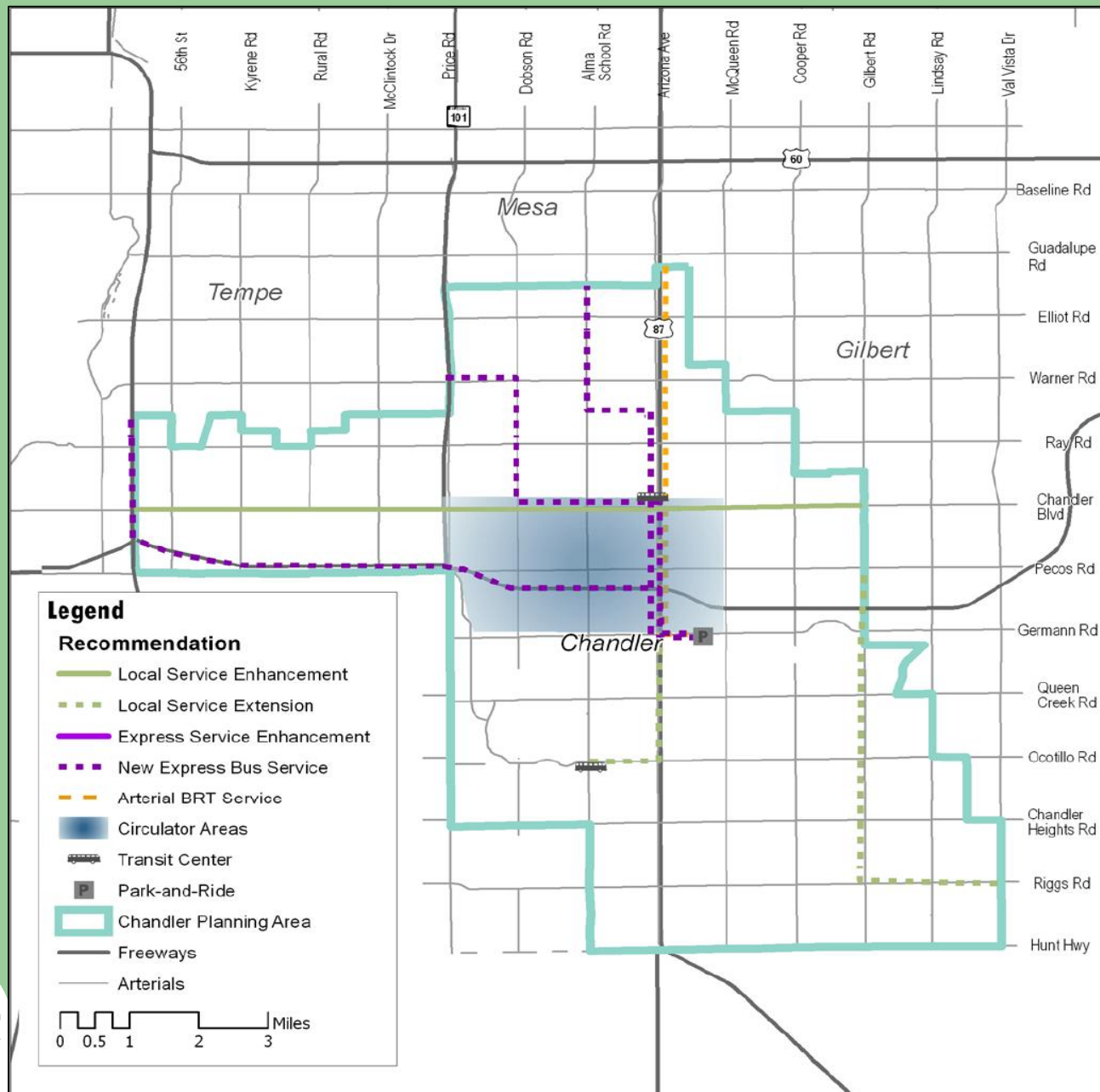
Near-Term Recommendations 2010-2014

Route	Route name	Recommendation	Implementation Date	Funding Source(s)	Additional Funding (if any)
540	Chandler Express	Add one trip	FY2012	City of Chandler/ RTP	\$40,000
541	Chandler Express	Add one trip	FY2013	City of Chandler/ RTP	\$40,000
542	Chandler/ Downtown Express	Add one trip	FY2014	City of Chandler/ RTP	\$40,000
NEW	Arizona Avenue BRT	Implement with southern terminus at Tumbleweed Park-and-Ride	FY2010	RTP	\$0
NEW	Downtown Circulator	Implement circulator between downtown TC, Chandler Fashion Center, Chandler Medical Center via Frye Road and Pecos Road	FY2015	City of Chandler	\$422,000



Chandler Transportation Plan

Near-Term Transit Improvements



Mid-Term Recommendations 2015-2019

- Local bus service
- Dial-A-Ride (ADA and Senior)
- Express bus service
- Circulators
- Supporting Facilities & Policies
- Staffing



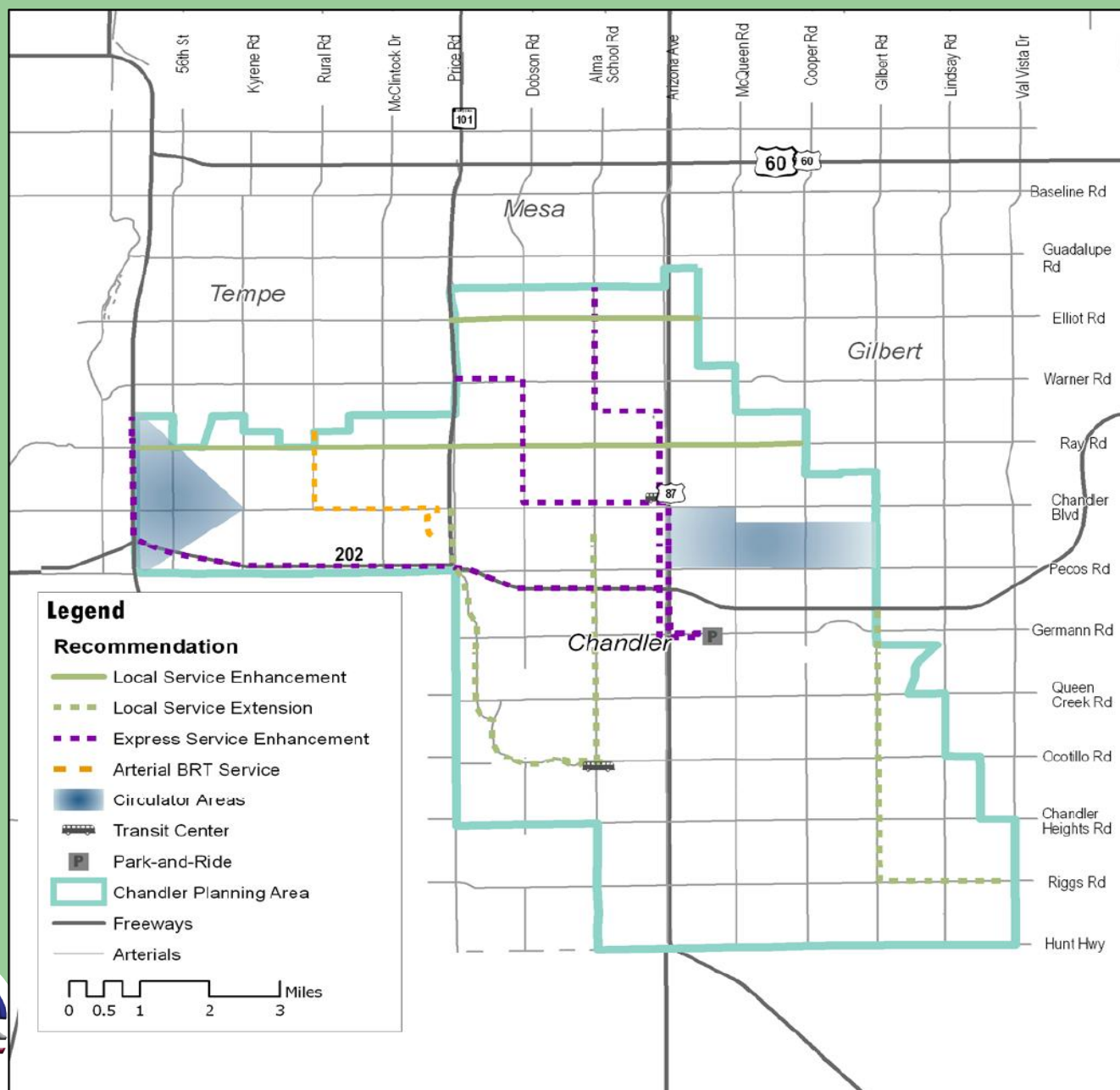
Mid-Term Recommendations 2015-2019

Route	Route name	Recommendation	Implementation Date	Funding Source(s)	Additional Funding (if any)
81	McClintock Drive	Extend south on Price Road to South Chandler Transit Center	FY2015	City of Chandler/ RTP	\$675,000
104	Alma School Road	Extend service to South Chandler Transit Center	FY2016	RTP	\$0
108	Elliot Road	Enhanced service level as planned in RTP	FY2016	RTP	\$0
NEW	Ray Road	Implement service as planned in RTP	FY2019	RTP	\$0
NEW	Rural Road BRT	Implement service as planned in RTP	FY2018	RTP	\$0
542	Chandler/ Downtown Express	Add one trip	FY2018	City of Chandler/ RTP	\$40,000
540	Chandler Express	Add one trip	FY2018	City of Chandler/ RTP	\$40,000
541	Chandler Express	Add one trip	FY2018	City of Chandler/ RTP	\$40,000
NEW	East Downtown Circulator	Connect downtown Chandler and the Chandler Airpark	FY2016	City of Chandler	\$375,000
NEW	West Chandler Circulator	Serves West Chandler and Ahwatukee	FY2017	City of Chandler/ Transit Benefit Area	\$188,000



Chandler Transportation Plan

Mid-Term Transit Improvements



Long-Term Recommendations 2020-2030

- Local bus service
- Dial-A-Ride (ADA and Senior)
- Express bus service
- Circulators
- Light Rail (Rural Road & Arizona Avenue)



Long-Term Recommendations 2020-2030

Route	Route name	Recommendation	Implement. Date	Funding	Additional Funding (if any)
NEW	Ray Road	Increase peak-hour service to 15-min headways in peak	FY2021	Chandler, Tempe, Gilbert, Mesa	\$400,000
120	McQueen Road	Extend to Tumbleweed Park-and-Ride	FY2021	City of Chandler	\$529,000
120	McQueen Road	Extend route to Queen Creek Road	FY2024	City of Chandler	\$650,000
NEW	Warner Road	Implement new services between ASU Research Park & Gilbert Civic Center	FY2023	City of Chandler/ Town of Gilbert	\$368,000
NEW	Queen Creek Road	Implement service in FY2019 as described in RTP, but route to Tumbleweed Park-and-Ride along Arizona Avenue	FY2025	RTP	\$125,000
74	Chandler Boulevard BRT	Implement per RTP	FY2024	RTP	\$0

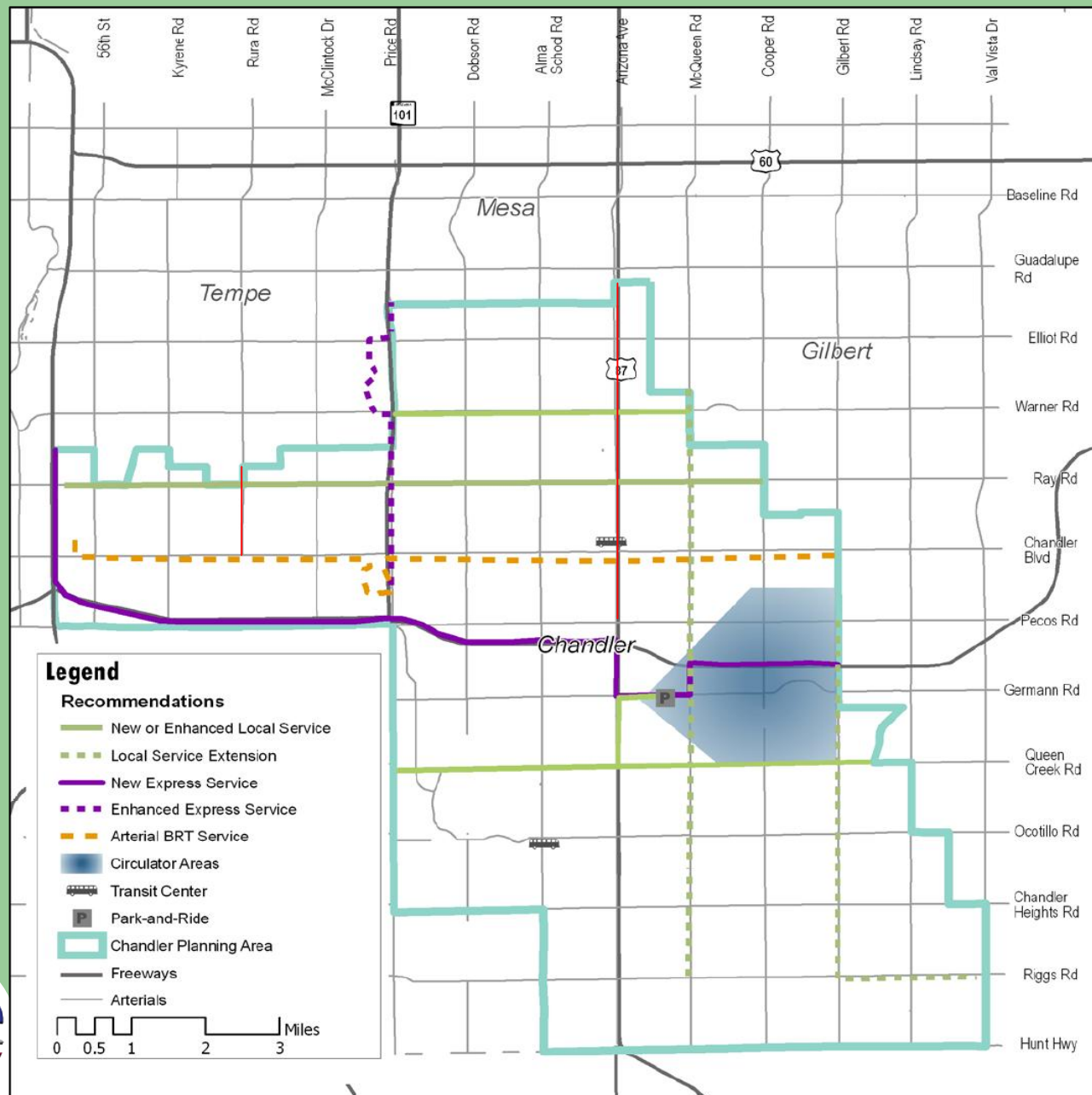


Long-Term Recommendations 2020-2030

Route	Route name	Recommendation	Implement. Date	Funding	Additional Funding (if any)
NEW	San Tan Express	Implement service per RTP; plus add two trips per day	FY2021	City of Chandler/ RTP	\$158,000
511	Scottsdale/Chandler Express	Add two trips per day	FY2025	City of Chandler	\$71,000
Light Rail	Rural Road	Begin light rail service on Rural Road and terminating at Chandler Boulevard.	FY2025	RTP/City of Chandler	tbd
Light Rail	Arizona Avenue	Begin light rail service on Arizona Avenue and terminating at Pecos Road	FY2030	RTP/City of Chandler	tbd
NEW	East Downtown/Airpark Circulator	Circulator route serves downtown TC, Chandler/Gilbert Community College, Chandler Airpark, and Tumbleweed Park-and-Ride	FY2020	City of Chandler	\$516,000



Chandler Transportation Plan



Long-Term Transit Improvements

Light Rail extensions
are in Red



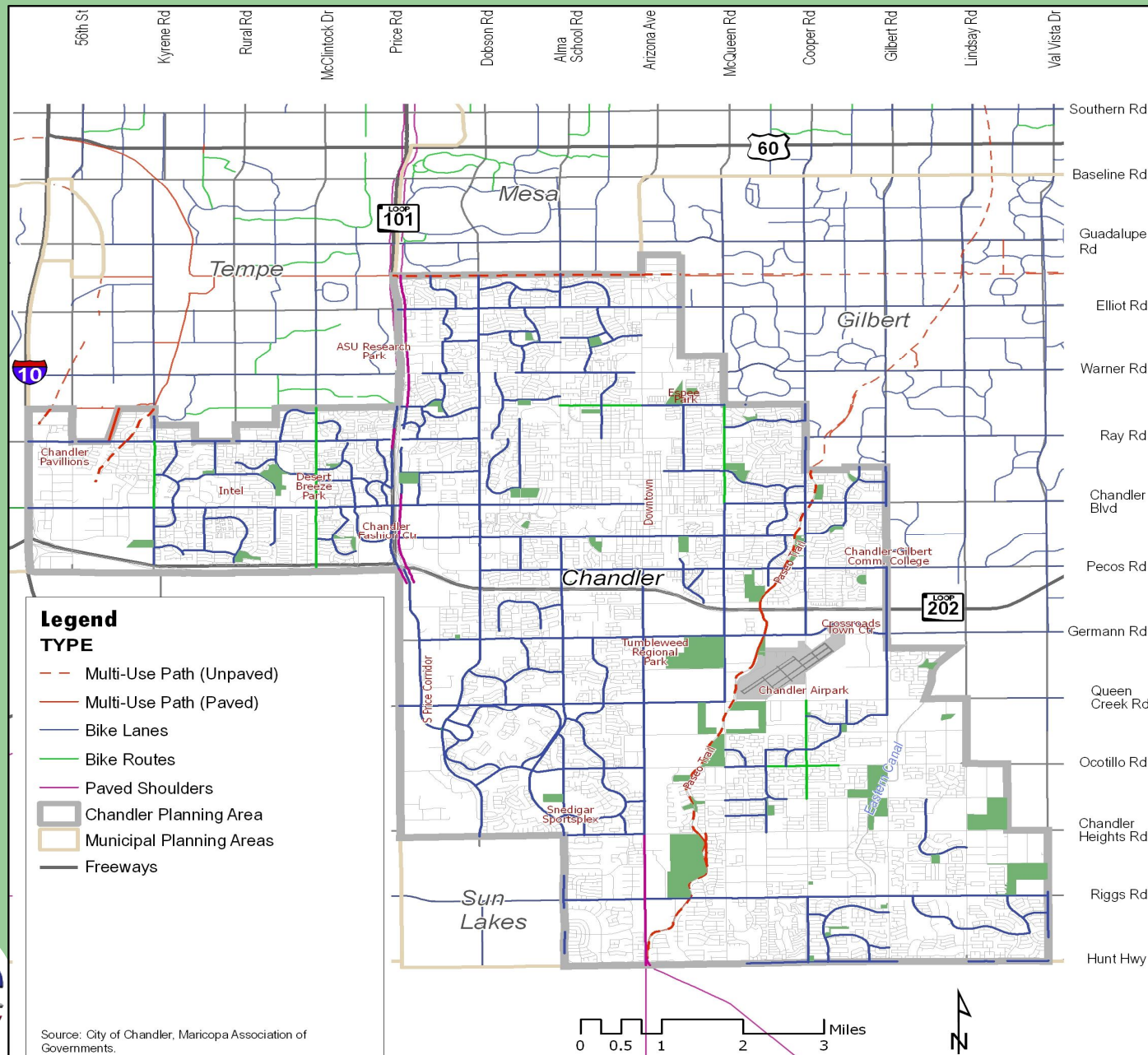
Bicycle & Pedestrian Recommendations

- **Bicycle**
 - Improves mobility of community
 - Unique facilities needed
 - Recreational Riders
 - Safety is key



Chandler Transportation Plan

Existing Bikeways in Chandler



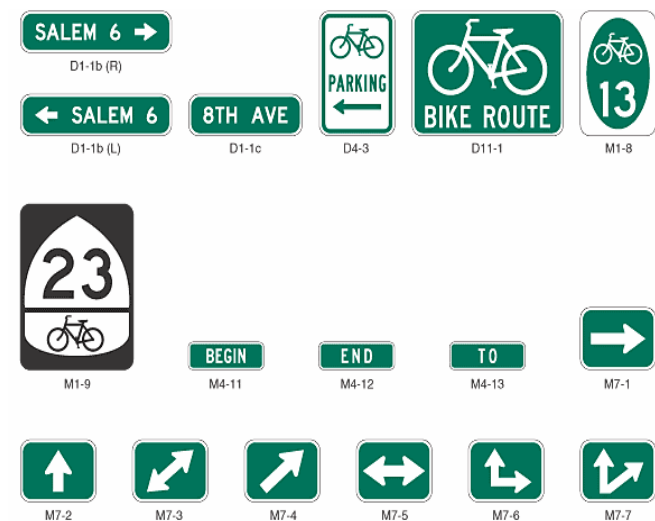
Bicycle & Pedestrian Recommendations

- Pedestrian
 - Pedestrian friendly community
 - Streetscape Improvements
 - Safety Guidelines
 - Comfort Guidelines
 - Destination Guidelines



Facility & Design Recommendations

- On-street Intersections
 - Refuge Islands
- Off-street
 - Shared-use Path System
 - Mid-mile Crossings
- Destinations
 - Parks and Recreation
 - Way-finding



Corridor & Focus Area Recommendations

- 1. Paseo Trail (\$1M – \$2M)
 - Pedestrian-activated signals
 - Utilize existing signal
 - Way-finding signs
- 2. Park-and-Ride and Tumbleweed Park (\$1M-\$2M)
 - Streetscape Improvements
 - Way-finding signs
 - Amenities



Corridor & Focus Area Recommendations

- 3. West Chandler – Chandler Fashion Center Connector (<\$500k)
 - Way-finding signs
 - Pedestrian/Bicycle crossing
- 4. Arizona Avenue along BRT Corridor (\$ n/a)
 - Way-finding signs
 - Bicycle parking



Corridor & Focus Area Recommendations

- **5. Galveston Street**
 - 5a. Chandler Fashion Center & Loop 101 (<\$500k)
 - Bicycle lanes
 - Way-finding signs
 - 5b. Loop 101 & Arizona Avenue (\$1M - \$2M)
 - Bicycle lanes
 - Right-of-way/easements
 - Street improvements
 - Way-finding signs
 - 5c. Arizona Avenue and Paseo Trail (\$500k - \$1M)
 - Pedestrian-activated signal
 - Way-finding signs
 - Bicycle Lanes



Corridor & Focus Area Recommendations

- 6. Brooks Farm Road (\$3M - \$5M)
 - Bicycle lanes
 - Streetscape improvements
 - Right-of-way/easements
 - Way-finding signs
 - Pedestrian/bicycle street crossings
- 7. Ryan Road (\$3M - \$5M)
 - Bicycle Lanes
 - Streetscape Improvements
 - Right-of-way/easements
 - Way-finding signs
 - Pedestrian-activated signal



Corridor & Focus Area Recommendations

- 8. Frye Road
 - 8a. West of Arizona Avenue (\$2M - \$3M)
 - Right-of-way/easements
 - 8b. East of Arizona Avenue (\$1M - \$2M)
 - Street improvements
 - Way-finding signs
- 9. Airport Boulevard (\$1M - \$2M)
 - Street improvements
 - Right-of-way/easements
 - Way-finding signs



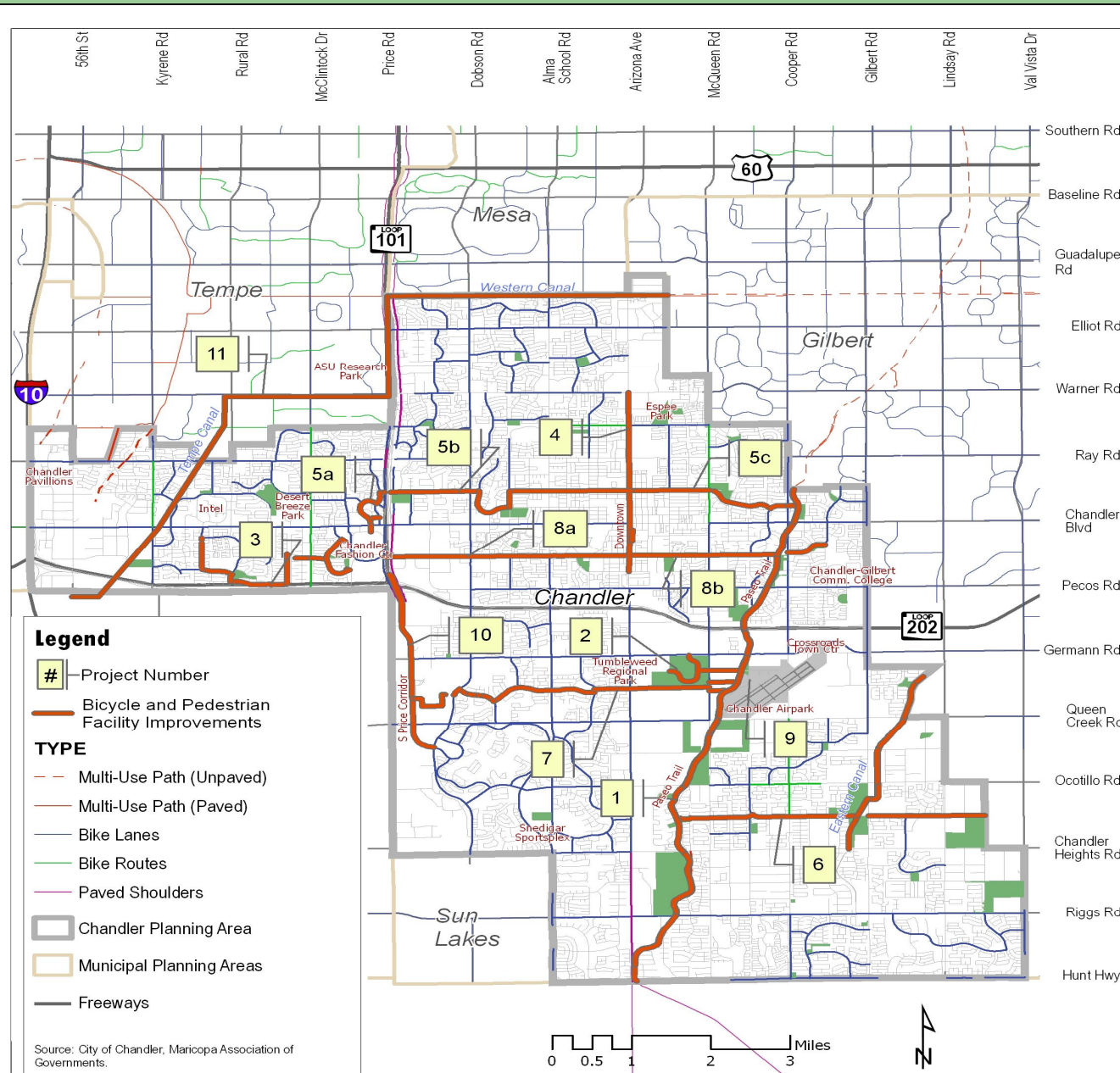
Corridor & Focus Area Recommendations

- 10. South Price Road (\$ n/a)
 - Zoning and development
- 11. Tempe Canal and Western Canal – North Chandler (\$3M - \$5M)
 - Joint-partnership study with Cities of Tempe and Mesa



Chandler Transportation Plan

Recommended Bikeway and Pedestrian Improvements



Next Steps

- Transportation Commission – December 17, 2009
- City Council – January 14, 2010

